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EXAMINER
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WANG, LIANG CHE A

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



**DETAILED ACTION**

1. Claims 1, 3, 6, 8-13, 28-35 are presented for examination.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/21/2006 has been entered.

***The New Grounds of Rejection***

3. Applicant's amendment and argument with respect to claims 1, 3, 6, 8-13, 28-35 filed on 7/21/2006 have been fully considered but they are deemed to be moot in views of the new grounds of rejection.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 28, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres, US Patent Number 6,738,371, hereinafter Ayres, in views of Sherman, US Patent Number 5,978,387, hereinafter Sherman.

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6. Referring to claim 28, Ayres has taught a method for dynamic control of data transfer by a subscriber during an on-going network session (Col 3 lines 25-31), comprising:
  - a. receiving a data packet at a gateway device (Col 5 lines 1-2, router 20 corresponds to the gateway device);
  - b. identifying, at the gateway device (router 20), a subscriber (end user 24) associated with the data packet (Col 5 lines 1-10);
  - c. retrieving from memory a subscriber profile (QOS customer profile 74) that includes subscriber-selected bandwidth (Figure 3, Col 8 lines 33-35, 38-44);
  - d. determining if a transfer rate for data packet transmission should be adjusted based on the subscriber-selected bandwidth (Col 8 lines 33-37, rate adjustment is made based on info stored in the profile);
  - e. determining if the transfer rate for the data packet transmission should be adjusted based on a priority of the data packet (Col 1 line 67-Col 2 line 3, each user account indicates a respective level of service priority and packet throughput bandwidth);
  - f. adjusting the transfer rate for data packet transmission based on outcome of the determination process (Col 9 lines 10-17);
  - g. wherein the transfer rate for the data packet transmission may be adjusted at any time based on adjustment of the subscriber-selected bandwidth (abstract, lines 4-6, Col 3 lines 26-30, dynamically adjusting the rate of packets, Col 8 lines 33-37, 56-60, rate adjustment are made based on customer QOS profile).

Ayres does not explicitly teach adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session.

However, Sherman teaches wherein the transfer rate for data packet transmission is adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session (Col 1 lines 62-64, Col 2 lines 11-54, Col 7 lines 27-30.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the method for providing bandwidth that is dynamically adjustable to the end user's needs as taught by Sherman in Ayres such that to have Ayres' bandwidth to be adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session because both Ayres and Sherman teaches inventions relating to bandwidth allocation to end-users.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because Sherman provides a solution when end user cannot dynamically change the bandwidth in the connection to adjust carrying rates of data transmission (Col 1 lines 57-64), and this dynamic provisioning would ensure that the end user is charged to what is actually used (Col 1 lines 64-67.)

7. Referring to claim 33, Ayres has taught a method for dynamic control of data transfer by a subscriber during an on-going network session (Col 3 lines 25-31), comprising:

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- a. receiving a data packet at a gateway device (Col 5 lines 1-2, router 20 corresponds to the gateway device);
- b. identifying, at the gateway device (router 20), a subscriber (end user 24) associated with the data packet (Col 5 lines 1-10);
- c. performing a packet translation function to enable the subscriber to access any network without re-configuration of a host device of the subscriber (Col 4line 67-Col 5 line 10, data packet are transferred among Internet and users without the need of reconfiguration of router);
- d. retrieving from memory a subscriber profile (QOS customer profile 74) that includes subscriber-selected bandwidth (Figure 3, Col 8 lines 33-35, 38-44);
- e. determining if a transfer rate for data packet transmission should be adjusted based on the subscriber-selected bandwidth (Col 8 lines 33-37, rate adjustment is made based on info stored in the profile);
- f. adjusting the transfer rate for data packet transmission based on outcome of the determination process (Col 9 lines 10-17);
- g. wherein the transfer rate for the data packet transmission may be adjusted at any time based on adjustment of the subscriber-selected bandwidth (abstract, lines 4-6, Col 3 lines 26-30, dynamically adjusting the rate of packets, Col 8 lines 33-37, 56-60, rate adjustment are made based on customer QOS profile).

Ayres does not explicitly teach adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session.

However, Sherman teaches wherein the transfer rate for data packet transmission is adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session (Col 1 lines 62-64, Col 2 lines 11-54, Col 7 lines 27-30.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the method for providing bandwidth that is dynamically adjustable to the end user's needs as taught by Sherman in Ayres such that to have Ayres' bandwidth to be adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session because both Ayres and Sherman teaches inventions relating to bandwidth allocation to end-users.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because Sherman provides a solution when end user cannot dynamically change the bandwidth in the connection to adjust carrying rates of data transmission (Col 1 lines 57-64), and this dynamic provisioning would ensure that the end user is charged to what is actually used (Col 1 lines 64-67.)

8. Claims 1, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres, US Patent Number 6,738,371, hereinafter Ayres, in views of Sherman, US Patent Number 5,978,387, hereinafter Sherman, and in further views of Jones et al., US Patent Number 6,307,836, hereinafter Jones.
9. Referring to claim 1, Ayres has taught a method for dynamic control of data transfer by a subscriber during an on-going network session (Col 3 lines 25-31), comprising:

- a. receiving a data packet at a gateway device (Col 5 lines 1-2, router 20 corresponds to the gateway device);
- b. identifying, at the gateway device (router 20), a subscriber (end user 24) associated with the data packet (Col 5 lines 1-10);
- c. retrieving from memory a subscriber profile (QOS customer profile 74) that includes subscriber-selected bandwidth (Figure 3, Col 8 lines 33-35, 38-44);
- d. determining if a transfer rate for data packet transmission should be adjusted based on the subscriber-selected bandwidth (Col 8 lines 33-37, rate adjustment is made based on info stored in the profile);
- e. adjusting the transfer rate for data packet transmission based on outcome of the determination process (Col 9 lines 10-17);
- f. wherein the transfer rate for the data packet transmission may be adjusted at any time based on adjustment of the subscriber-selected bandwidth (abstract, lines 4-6, Col 3 lines 26-30, dynamically adjusting the rate of packets, Col 8 lines 33-37, 56-60, rate adjustment are made based on customer QOS profile).

Ayres does not explicitly teach adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session.

However, Sherman teaches wherein the transfer rate for data packet transmission is adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session (Col 1 lines 62-64, Col 2 lines 11-54, Col 7 lines 27-30.)



It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the method for providing bandwidth that is dynamically adjustable to the end user's needs as taught by Sherman in Ayres such that to have Ayres' bandwidth to be adjustable by a subscriber at anytime during the on-going session based on adjustment of the subscriber-selected bandwidth during the on-going network session because both Ayres and Sherman teaches inventions relating to bandwidth allocation to end-users.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because Sherman provides a solution when end user cannot dynamically change the bandwidth in the connection to adjust carrying rates of data transmission (Col 1 lines 57-64), and this dynamic provisioning would ensure that the end user is charged to what is actually used (Col 1 lines 64-67.)

Furthermore, Ayres does not teach a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to network and a second subscriber – selected bandwidth for information being retrieved from a network, the first and second subscriber-selected bandwidth being separate.

Jones teaches a subscriber service profile, which includes list of what services can be granted, and the desired upstream and downstream bandwidth selected by the subscriber (Col 9 lines 47-56, Col 4 lines 46-53).

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the subscriber-selected upstream and downstream rate to be stored in the subscriber profile of Ayres, because Ayres teaches a system which

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receives upstream data packets from a user and receives downstream data packets from the server (Col 5 lines 1-10) and Jones is providing an option for the subscriber to select the desired rate for the upstream and downstream data flow (Col 4 lines 46-53).

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having the subscriber-selected upstream and downstream rate stored in subscriber's service profile would provide user's desired service rate as taught by Jones (Col 4 lines 46-53).

10. Referring to claim 35, Ayres as modified teaches an invention as described in claim 33, and Ayres does not teach a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to network and a second subscriber -selected bandwidth for information being retrieved from a network, the first and second subscriber-selected bandwidth being separate.

Jones teaches a subscriber service profile, which includes list of what services can be granted, and the desired upstream and downstream bandwidth selected by the subscriber (Col 9 lines 47-56, Col 4 lines 46-53).

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the subscriber-selected upstream and downstream rate to be stored in the subscriber profile of Ayres, because Ayres teaches a system which receives upstream data packets from a user and receives downstream data packets from the server (Col 5 lines 1-10) and Jones is providing an option for the subscriber to select the desired rate for the upstream and downstream data flow (Col 4 lines 46-53).

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having the subscriber-selected upstream and downstream rate stored in subscriber's service profile would provide user's desired service rate as taught by Jones (Col 4 lines 46-53).

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres in views of Sherman and Jones and in further views of Gulliford et al., US Patent Number 6,618,355, hereinafter Gulliford.

Ayres as modified has taught an invention as described in claim 1, Ayres has taught the step of identifying, at the gateway device (router 20), a subscriber (end user 24) associated with the data packet (Col 5 lines 1-10);

Ayres does not explicitly teach the association of MAC address within the data packet.

However, Gulliford teaches a determination is made, when the switch receives a transmitted data packet, a physical address of a destination device (MAC address) is intended for a subscriber device (Col 12 lines 62-66.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the association of MAC address with the data packet of Gulliford in Ayres such that to have Ayres' system to identify at the gateway device the subscriber associated with the data packet by the MAC address within the data packet because both Ayres and Gulliford have taught packets communicating within a network.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having the MAC address would allow Ayres' system to be

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aware of the physical address of a destination device as taught by Gulliford (Col 12 lines 32-66.)

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres in view of Sherman and Jones and in further views of Salkewicz, US Patent Number 6,609,153, hereinafter Salkewicz.

Ayres as modified has taught an invention as described in claim 1, including retrieving a subscriber selected bandwidth (Col 8 lines 33-35, 38-44). Ayres has not taught where the information is retrieved from the Authentication, Authorization and Accounting (AAA) subscriber management interface.

However, Salkewicz has taught the use of AAA to retrieve access control and identify the subscribers (Col 15 lines 13-27.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Ayres such that to have information retrieved from an AAA subscriber management interface, because both Ayres and Salkewicz have taught packet communication with network devices.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having an AAA would allow a better security to be implemented in Fowler's system though the Authentication, Authorization and Accounting as taught by Salkewicz (Col 15 lines 13-27.)

13. Claim 8-11, 13, 29-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres in view of Sherman and/or Jones and in further views of Fowler, US Patent Number 5,793,978, hereinafter Fowler.

14. Referring to claim 8, 29 and 34, Ayres as modified has taught an invention as described in claim 1, 28 and 33, and Ayres has taught the step of retrieving from memory a subscriber profile (QOS customer profile 74) that includes subscriber-selected bandwidth (Figure 3, Col 8 lines 33-35, 38-44) and the step of adjusting the transfer rate for data packet transmission based on outcome of the determination process (Col 9 lines 10-17); and Ayres has further taught the delay parameter (Col 6 lines 5-9).

Ayres as modified has not explicitly taught the limitation of delay period.

However, Fowler has taught the limitation of delay period (Fowler, Col 1 lines 49-52, delay period corresponds to the period of time that message is held until the selected amount of bandwidth become available.)

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate the delay period of Fowler in Ayres such that to have the step of determining a delay period for transmitting the packet, and the step of queuing the data packet for the delay period before transmitting the packet because both Ayres and Fowler have taught data packets in a communication network.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having the delay period for data packet transfer would give a relief to when a significant amount of packets are attempting to be broadcast or transmitted at the same time as taught by Fowler (Col 1 lines 28-40.)

15. Referring to claim 9, Ayres as modified has further taught wherein the step of determining a delay period further comprises determining a delay period based upon a

byte size of the data packet (Fowler, Col 53-56, selected bandwidth is based on the packet bytes to be send in any one second period.)

16. Referring to claim 10, Ayres as modified has further taught wherein the step of determining a delay period further comprises determining a delay period based upon a byte size and a time lapse of a most recently transmitted data packet that was associated with the subscriber (Fowler, Col 1 lines 53-56, selected bandwidth is based on the packet bytes to be send in any one second period.)
17. Referring to claim 11, Ayres has taught about the delay period (Col 1 lines 48-52.) And it would have been obvious for a person with ordinary skill in the art to have the maximum delay period of 2 seconds, because a delay time could be set to a limit of any time interval including a maximum of 2 seconds.
18. Referring to claim 13, Ayres as modified has taught wherein the subscriber network session is a wireless network session (Fowler, Col 2 lines 63-67, broadcasting is known to be done either wirely or wirelessly.)
19. Referring to claim 30, Ayres as modified has taught the method of claim 29, the priority of the data packet is based on a content of the information in the data packet (Col 1 line 67 –Col 2 line 3).
20. Referring to claim 31, Ayres as modified has taught the method of claim 29, the priority of the data packet is based on a subscriber selected class of service (Col 3 lines 53-65, Col 10 lines 65-67).

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21. Referring to claim 32, Ayres as modified has taught the method of claim 29, the priority of the data packet is based on a subscriber selected reservation of a bandwidth block (Col 3 lines 53-65, Col 10 lines 65-67).
22. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayres in views of Sherman and Fowler and in further views of Barton, US Patent Number 6,310,886, hereinafter Barton. Ayres as modified has not taught, the step of queuing the data packet using a ring buffer. However, Barton has taught the use of ring buffer for queuing the data packet (Col 8 lines 1-3).

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Ayres as modified such that to have a ring buffer for queuing the data packet, because both Ayres as modified and Barton has taught packet communication in a network environment.

A person with ordinary skill in the art would have been motivated to make the modification to Ayres because having the ring buffer algorithm used for queuing packets to be sent through is well known and recognized by the practitioners skilled in the art as taught by Barton (Col 7 line 67- Col 8 line 3.)


### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liang-che Alex Wang whose telephone number is (571)272-3992. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

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24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571)272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Liang-che Alex Wang  
August 16, 2006



SALEH NAJJAR  
SUPERVISORY PATENT EXAMINER